DOCUMENT RESUME

ED 038 542 VT 010 893

AUTHOR	Blankenbaker, Keith; Miller, W. R.
TITLE	Annotated Bibliography of Periodical Articles Related to the Interpretation of Industry, 1960-1970.
INSTITUTION	American Industrial Arts Association, Washington, D.C.
PUB DATE	9 Apr 70
NOTE	19p.; Presented at the American Industrial Arts Assocation Convention (April 9, 1970)
EDRS PRICE	EDRS Price MF-$0.25 HC-$1.05
DESCRIPTORS	*Annotated Bibliographies, Curriculum, Educational Philosophy, *Industrial Arts, *Industrial Education, Mass Production, Occupational Information, Research Problems, Teacher Guidance
IDENTIFIERS	*American Industrial Arts Association Convention

ABSTRACT

This annotated bibliography is composed of 100 citations covering the period from 1960 to 1970. All entries are journal articles related to the interpretation of industry or operational aspects of technology in industrial arts. Listings are arranged alphabetically according to author under the general divisions of Philosophy and Rationale, Curricular Programs, Courses, and Teacher Designed Experiences which include mass production, research and experimentation, and occupational orientation. (GR)

ANNOTATED BIBLIOGRAPHY OF PERIODICAL ARTICLES RELATED TO THE INTERPRETATION OF INDUSTRY

1960-1970

Prepared by

Keith Blankenbaker and W. R. Miller

Department of Practical Arts and Vocational-Technical Education
University of Missouri - Columbia

AMERICAN INDUSTRIAL ARTS ASSOCIATION CONVENTION

Program Th 3.61.16
Special Interest Session

MAN AND TECHNOLOGY

"Technology In Industrial Arts:
Operational Aspects"

April 9, 1970

BIBLIOGRAPHY RELATED TO THE INTERPRETATION OF INDUSTRY AND TECHNOLOGY IN INDUSTRIAL ARTS

I. Philosophy and Rationale

Allen, Dell K., "The Changing Processes of Industry Demand Change in Instructional Approach," School Shop, January 1966, Vol. XXV, No. 5.

A new dimension is added to the curriculum dialogue on industrial education.

Bateson, Willard M., & Jacob Stern, "The Functions of Industry as the Basis for Industrial Education Programs," JITE, Fall, Vol. 1, No. 1, P. 3.

Need for and process for updating Industrial Education Programs.

Betterley, R.E., "Industry Views Industrial Arts," IAVE, Vol. 52, No. 2, February, 1963.

Results of a survey indicating how industry views industrial arts.

Carrel, Joseph J., "What Is Industry" Journal of Industrial Arts Education, May-June, 1965, Vol. XXIV, No. 5.

Elements of Industry

Crews, Alton C., "Career Oriented Curriculum: Cobb County Model", American Vocational Journal, Vol. 44-9, December, 1969, P. 17.

This Georgia program of career orientation begins in the elementary school and is continuous through a continuing education program.

Earl, Arthur W., "Let's Call All of It Technology," IAVE, Vol. 54, No. 4, April, 1965.

Perhaps by comparing technology to other fields of American education, insight can be gained into the effectiveness of a unified profession under a single name. The acceptance of a single name, such as technology, would put our various fields in balance with the other areas of education, like science and mathematics, that have always been united under a common name.

Evans, Rupert N., "Industry and the Content of Industrial Education," School Shop, April, 1962, Vol. XXI, No. 8.

Determining Course Content in Industrial Education.

Feirer, John, "Interpreting Industry, Our Weakest Objective," The Editor's Stand, IAVE, January, 1961, Vol. 50, No. 1.

If orienting youth to industrial practice is one of I-A's major objectives, why aren't we doing a better job? Also, how can we do a better job?

Haskell and Schnck, "Some Neglected Ramifications of Teaching Mass Production In The Industrial Arts Laboratory", Journal of Industrial Teacher Education, Vol. 4, No. 1, September, 1966, P. 31.

The authors suggest that industrial arts in overlooking the socio-psychological forces which exist in mass production industries when industrial arts teachers attempt to carry out mass production activities in the I.A. lab. What needs to be done, according to the authors, is to provide the student with the opportunity to recognize and deal with these forces.

Huggens, S.D., "Industry's View of Industrial Arts," IAVE, June, 1961, Vol. 50, No. 6.

What industrial arts teachers must do to gain the support of industry.

Johnston, W.L., "Interpreting Industrial Practice in the Modern I.A. Lab.", School Shop, Vol. 29, No. 4, December, 1969, P. 36-37.

Dr. Johnston suggests that industrial arts is not providing students with an accurate interpretation of industry and utilizes a chart to compare I.A. and Industry in regard to control of raw materials, space utilizations, production methods, employee selection, and product purpose.

Kenter, Harold M., and Papero, James M., "Getting Ahead", Journal of Industrial Arts Education, Vol. 28, No. 1, September-October, 1968, P. 36-39.

Describes a program of work-study designed to introduce non-college bound students into industry. The program was financed by the cooperating industries and the students enrolling. Eighty students entered a nine week program with the understanding that they would become full-time employees upon completion.

Lauda, Donald P., "In the Midst of Change", JIAE, Vol. 29, No. 1, September-October, 1969, P. 33-34.

From a philosphical point of view the point is made that industrial arts should interpret society from a technological standpoint and deal specifically with the affects of technology on man. "Our students must relate to man, to society, and its institutions in the midst of change. If he (the student) cannot relate to technology and accept it, he cannot accept society, and confusion is the result."

Lux, Donald G., and Ray, Willis E., "The Industrial Arts Curriculum Project", American Vocational Journal, Vol. 44, No. 3, March, 1969, P. 61-2.

A brief report of the establishment and progress of I.A.C.P.

McClure, John A., "Entrepreneurships Teach About Industry", American Vocational Journal, Vol. 45, No. 1, January, 1970, P. 27-8+.

The three phase program outlined is unique in its organization. Students work in groups of 4 or 5 to develop a prospectus for the manufacture of a product they have selected. Each group presents its prospectus to the entire class. Two or more are selected for manufacture. This final phase is carried out after school or during summer session utilizing what ever work force can be recruited at a nominal wage.

Mehrens, Harold E., Jr., "Industrial Arts and the Space Age," IAVE, February, 1967, Vol. 56, No. 2, P. 26.

Areas of overlapping interests, how to assist the space industries through Industrial Arts.

Minter, Thomas J., "Project Problems", JIAE, March-April, 1967, Vol. 26, No. 4, P. 10-11+.

Challenges the use of the project in industrial arts.

Nystrom, Dennis C., "A Broader Mission for Industrial Arts," American Vocational Journal, October, 1969, Vol. 44, No. 7, P. 52+.

The American Enterprise System is described as a pyramid and a case is presented for industrial arts accepting the mission of interpreting this total pyramid to junior high students.

Olson, Delmar W., "A Logic Base", JIAE, January-February, 1969, Vol. 28, No. 3, P. 21-22.

Dr. Olson makes a case for industrial arts accepting as its responsibility "the interpretation of technology for the American school".

Olson, Delmar W., "Industrial Arts Recast", JIAE, May-June, 1969, Vol. 28, No. 5, P. 5-7.

This article is a follow-up on the January-February 1969 article entitled A Logic-Base. Three primary objectives of industrial arts are identified. Within the scope of these objectives the six functions (1) technical, (2) occupational, (3) consumer, (4) cultural, (5) recreational, and (6) social are accepted. as the categories of action through which industrial arts moves toward its goals.

_____, "Industry versus Technology", School Shop, September, 1969, Vol. 29, No. 1, P. 86-88.

Dr. Olson calls on industrial arts educators to focus in the study of technology as the subject matter of industrial arts. This would include the study of industry as well as all other means by which mans total material culture is produced.

Olson, Harold P., "Are We Guilty of Technertia?", Journal of Industrial Arts Education, Vol. 24, No. 3, January-February, 1965.

If we check the definition of technology, it would appear that industrial arts today is indeed a "study of technology." The author disagrees, however, because we are falling short on two purposes.

Prakken, Lawrence W., "Let's Keep in Step," School Shop, November, 1964, Vol. XXIV, No. 3.

Discusses the need for keeping up with industry and what some schools are doing to encourage this.

Pratzner, Frank C., "Development of the Self-Concept: A Theoretical Framework and Suggestions for Classroom Action Research", JITE, Fall, 1969, Vol. 7, No. 1, P. 31-37.

This article preceeded the Winter 1969 article by Dr. Pratzner (JITE).

_____, "Changing the Goals of I.A.: An Occupational Development Curriculum", JITE, Winter, 1969, Vol. 6, No. 2, P. 31-39.

It is suggested that the direction industrial arts curriculum should take is toward a program which would emphasize the development of the individual students self-concept. The objectives of industrial arts are examined and suggestions are made for their revision.

"Roundtable: Comparing Programs in Industrial Education", IAVE, Vol. 59, No. 1, January, 1970, P. 24-6+.

Six questions are responded to by seven of the proponents of curriculum change in industrial education.

Schmitt, Marshall L., "A Progress Report on Teaching the Art of Industry", School Shop, February, 1968, Vol. 27, No. 6, P. 41-43+.

Suggests that industrial arts has entered an .."era wherein industrial arts pivots around a study of the history and theory of industry and technology". Sites several examples of innovative programs.

Sredl, Henry J., and Travis, Evan, "Mass Production: Unit of Study on Method of Teaching", IAVE, May, 1968, Vol. 57, No. 5, P. 43-44.

The need for providing students with a realistic interpretation of industry is reviewed. The advantages of mass production activities are listed.

Stadt, Ronald W., and Vensen, Thomas R., "Industry and Criticism", JITE, Fall, 1965, Vol. 3, No. 1, P. 36-41.

The article examines the question of industrial arts being the agent responsible for communicating industrial criticism -- "Should I.A. cause students to develop the ability to evaluate industry and its relationship to other institutions?"

_____, "Analyzing Industry and Organizing Content for I.A.", JIAE, January-February, 1966, Vol. 25, No. 3, P. 25-27.

As educational director of the American Institute of Baking, Mr. Stadt points out that there are many ways to analyze industry: size, degree of mechanization, type of institution, vertical intergration, horizontal intergration, materials, processes, products, and location. Industrial arts must deal with all of these concepts if it is to provide a sound program.

Stadt, Ronald, et. al., "Enterprise: Man and Technology", IAVE, September, 1969, Vol. 58, No. 7, P. 24-26.

The authors describe the proposed program for junior high school industrial arts which is being developed at Southern Illinois University.

Stern, Jacob, "Industrial Education and the Imperativies of the New Materials Age", JITE, Spring, 1964, Vol. 1, No. 3, P. 11-14.

The point is made that the traditional boundaries between classes of materials is being swept away with the ever accelerating introduction of new materials -many of which are combinations of materials previously classified separately. The author takes the position that this is one reason why industrial education must make efforts to identify the essence of industry.

Streichler, Jerry, "How Can We Put Industrial Education on Step With Technology?", IAVE, November, 1963, Vol. 52, No. 9, P. 16-18.

Discusses the needed articulation between Trade and Industrial Vocational Education, Vocational-Technical Education, and Industrial Arts Education. It is suggested that a "National Science Foundation" for technological education be established to conduct research, simulation, articulation and communication activities on a national level.

II. Curricular Programs

Alexander, William F., "What About Technology in the Industrial Arts Program", IAVE, October, 1963, Vol. 52, No. 8, P. 18-21.

The program outlined in this article is based on the work of Delmar W. Olsen and John Mitchell. It includes a study of (1) manufacturing industries, (2) construction industries, (3) power industries, (4) electrical and electronics industries, and (5) service industries.

Bateson, Willard M., and Jacob Stern, "Functions of Industry: Bases for Vocational Guidance," School Shop, March, 1962. Vol. XXI, No. 7.

The authors present a new tack--one well worth considering--as a solution to a problem that's been with us for a long time.

Blum, Robert R., "Teaching Construction in the Junior High School", IAVE, December, 1968, Vol. 57, No. 10, P. 24-29.

This is a report of the progress of the Industrial Arts Curriculum Project which outlines the course entitled The World of Construction which has been developed.

Brown, Walter C., "New Ways of Teaching Industrial Arts," IAVE, December, 1969, Vol. 58, No. 10, P. 20-1+.

This article is a preliminary report of the AVA Committee on Innovative Programs in Industrial Arts. Descriptive information about eight locally developed programs is presented.

Carrel, Joseph J., "Industriology: The Study of Industry", AVJournal, May, 1965, Vol. 40, No. 5.

Author advances a proposal to update the terminology in industrial arts education.

Cochran, Leslie H., "An Overview of Innovative Programs - Part I", School Shop, September, 1969, Vol. 29, No. 1, P. 47-50.

Summarizes two major approaches being taken by innovative programs: (1) Integrative Programs, (2) Interpretation of Industry Programs.

_____, "An Overview of Innovative Programs - Part II", School Shop, October, 1969, Vol. 29, No. 2, P. 53-56.

Summarizes two major approaches being taken by innovative programs in industrial arts: (1) Occupational-Family Program, (2) Technology-Oriented Programs.

_____, "Innovation: A New Direction for Industrial Arts", IAVE, December, 1969, Vol. 58, No. 10, P. 22-24.

The focus of this article is seven of the innovative programs which are being developed at institutions of higher learning.

_____, "Innovative Programs In Industrial Education", McKnight and McKnight Publishing Company, Bloomington, Illinois, 1970.

Twenty-five innovative programs in industrial education are classified and reviewed and a report of research intended to compare the various approaches is given.

Duffy, Joseph W., "A New Proposal: Let's Revamp Industrial Arts Programs To Reflect Technological Needs", IAVE, November, 1963. Vol. 52, No. 9, P. 20-1+.

Dr. Duffy outlines a six year sequence of courses which would incorporate many of the important industrial concepts into existing programs without the need for completely changing our present programs.

Goin, David M., "Innovations In Industrial Arts", American Vocational Journal, March, 1970, Vol. 45, No. 3, P. 66-67.

A brief description of eight innovative programs which are being developed at various institutions of higher learning is presented.

Hackett, Donald E., "Study of American Industry is Essential to Liberalizing General Education", IAVE, April, 1964, Vol. 53, No. 4, P. 25-28+.

Dr. Hackett traces the development of industrial arts to the efforts of engineers (Woodward and Runkle) to introduce the teaching of tool skill only as they facilitated other learning--understanding of technology. A sequence of industrial arts courses is suggested that offers separate paths for the college bound student and those who will go immediately into the labor force upon graduation.

Hoffmaster, Charles F., "Full-Year Course on Automation", School Shop, September, 1958, Vol. 18, No. 1, P. 13-14.

The course was designed to provide laboratory experiences in instrumentation, electronics, and industrial chemistry. It was offered to a selected group of college bound students. Through the cooperation of local industry many highly technical areas of study were included in the program.

IACP Staff, "The Industrial Arts Curriculum Project", JIAE, November - December, 1969, Vol. 29, No. 2, P. 10-39.

The Industrial Arts Curriculum Project is described and samples of the materials developed are included.

Kicklighter, Clois E., "An Exploratory Taxonomy Based on the Common Elements of Industrial Enterprises", JITE, Fall, 1967, Vol. 5, No. 1, P. 14-29.

A taxonomy of the elements of industry is presented which contains nine major categories. Also several suggestions are made as to how it should be utilized.

Kirby, Jack, "Industriology: A Bid to 'Teach It Like It Is'", School Shop, December, 1968, Vol. 28, No. 4, P. 44-45.

Describes a curriculum project at Wisconsin State University-Platteville which is designed to update industrial arts programs.

McGovern, Troyce D., "Selecting I-A Solids From Industry," IAVE, June, 1960, Vol. 49, No. 6.

Discussion of five solids representing our most important industries.

Maley, Donald, "Bases For Organizing The Content of I.A. With Emphasis On the Research and Experimentation Program," JITE, Fall, 1963, Vol. 1, No. 1, P. 22-31.

The Research and Experimentation Program developed at the University of Maryland is described.

Nelson, Orville, "The American Industry Evaluation System," JITE, Winter, 1969, Vol. 6, No. 2, P. 31-39.

The rationale of the American Industry Project is reviewed briefly followed by a discussion of the system used to evaluate the effectiveness of the curriculum materials produced.

Plutte, William, "The Pre-Tech Program: Richmond Plan Revisited", IAVE, April, 1968, Vol. 57, No. 4, P. 64+.

The procedure followed in the development of the Richmond Plan is reviewed.

Stadt, R. W., et. al, "Enterprise: Man and Technology", IAVE, October, 1969, Vol. 58, No. 8, P. 23+.

This is a follow-up to the September, 1969 article. The categories of technology established by the Enterprise: Man and Technology Project are discussed.

Stadt, Ronald W., "Man and Technology in Secondary School Curriculum," JITE, Winter, 1969, Vol. 6, No. 2, P. 21-30.

Six criteria for industrial arts are discussed followed by a brief outline of the new undergraduate teacher education programs being initiated at Southern Illinois University.

Yoho, Lewis W., "Systems Concepts with Implications for Industrial and Technical Education", JITE, Winter, 1969, Vol. 6, No. 2, P. 5-20.

Dr. Yoho presents systems analysis as a new way of thinking about curriculum development. Several SNAP MAPS are presented for the readers reaction.

Wolansky, William, "Providing a New Dimension for Industrial Arts," IAVE, Vol. 53, No. 2, February, 1964.

A report on what San Jose State College industrial arts department is doing in their program of studying industrial materials. Using scientific approach and equipment they investigate and research basic materials.

Young, Talmage B., "A Three-Phase Approach to Industrial Arts," School Shop, October, 1965, Vol. XXV, No. 2.

A plan for industrializing industrial arts.

Ziel, Henry R., "Interpreting the World of Work in I.A. Programs", IAVE, September, 1962, Vol. 51, No. 7, P. 26-27.

A four-phase program for revamping I.A. programs as an orientation to the world of work. Phase one would provide a general interpretation of the significance of tools. Phase II would introduce a sampling of current technological processes. Phase III simulates conditions as they exist in industry. Phase IV allows the student to concentrate on the technology of his choice.

III. Courses

Barella, Richard V., Stoper, Richard L., "The Parma Approach - Probing A New Orbit in J. H. I.A.", School Shop, Vol. 28, No. 6, February, 1969, P. 45-48.

An industrial arts course which is designed to give students an insight into the technology of modern mass production is described. The introduction to the course involved the students working in small groups to prepare presentations of topics they had selected i.e. American Industry-Its Purposes and Importance to Our Way of Life, The Technology of Primitive Man and Early Civilization and The Functions of Manufacturing were taught followed by a production line experience.

Campbell, Glenn, "A Report on An Integrated Shop Program Set Up to Teach Industrial Methods", IAVE, June, 1963, Vol. 52, No. 6, P. 24-25.

Students from industrial arts classes in the areas of drafting, metalworking, woodworking, and power mechanics cooperated in the production of garden tractors.

Kilgore, Aluah, "Research in Technology: An Experiment in Individual Study", IAVE, May, 1969, Vol. 58, No. 5, P. 73-76.

The course described was established for college bound high school boys. It involved them in the delimiting of a research problem, conducting a scientific study of the problem, developing a project in relation to the problem, and writing a paper on the findings.

Maffett, Ronald D., "It Can Be Done", JIAE, September-October, 1969, Vol. 29, No. 1, P. 10-11.

A course designed for the junior high school is described which emphasizes the problems, products, processes, occupations, and contributions of present-day industry. The method of presentation utilizes a combination of lecture-demonstration, individual project, seminars, and group activities.

Weaver, William J., "Applying Industry to an Advanced Wood Prog.", IAVE, January, 1961, Vol. 50, No. 1, P. 16-17.

Production methods were applied in an advanced woodworking course. Student selected a disk as the product they wished to produce and then completed the following steps of the manufacturing process: (1) Design & drawing, (2) prototype, (3) jigs & fixtures, (4) part manufacture, (5) assembly and (6) finishing and sales.

IV. Teacher Designed Experiences

A. Mass Production

Bell, Lawrence L., "Student-Centered Instruction in Manufacturing Techniques," School Shop, January, 1968, Vol. 27, No. 5, P. 38-39.

An organization in which each student is a shareholder in the company and the teacher serves as director is outlined. The product was selected from designs submitted by individual students. The class developed the entire production procedure to produce monogramed bookholders for each of the members of the class.

Betterini, R. L., "Insulated Ice Bowl Mass Produced", IAVE, January, 1969, Vol. 58, No. 1, P. 38-40.

An outline of the procedure through which the class solved the problems of mass producing insulated ice bowls is presented along with the steps of procedure which they developed.

Blott, Sandra, and Suchavski, Mike, "Business and Industry - Team Teaching Unit," IAVE , February, 1969, Vol. 57, No. 2, P. 40-41.

Through the corporation of the business education teacher and the American Industry teacher this educational experience provided the business education students an opportunity to see how the typing of orders, etc. was related to an industrial enterprise. The classes were team taught and involved the development of a product, the formation of a company, and the production of a product.

Bokusek, Schwartz, Swanson, "Interpreting Industry Through a Production Experience at the Junior High School Level," IAVE , June, 1962, Vol. 51, No. 6, P. 22.

Six objectives of a study of mass production are suggested, along with a discussion of the following topics (1) Role of of the teacher (2) product development (3) Operations breakdown (4) jigs and fixtures (5) routing and assigning of personnel (6) pilot run (7) production period, and (8) follow-up.

Cackowski, Frank J., "A Practical Approach to Architectual Drafting," School Shop, March, 1969, Vol. 28, No. 8, P. 46-47.

An architectual drawing assignment which requires the class to work as a group of architects in the development of a residential subdivision is described.

Dutton, Bernard, "Mass Production - Principles, Applications, Operations," School Shop, September, 1966, Vol. 26, No. 1, P. 44..

The author makes several points concerning the limits which industrial arts teachers should impose on mass production projects. He then outlines a procedure for carrying out a mass production project.

Green, Earl, and Mills, "Interpretation of Industry in the Junior High Schools," IAVE, October, 1965, Vol. 50, No. 8, P. 44.

The project described was completely planned by the teachers involved because of a lack of time. There might be a good way to begin with junior high students.

Hacker, Michael, "The Syosset Plan Seventh Grade Manufacturing," IAVE, January, 1969, Vol. 58, No. 1, P. 24-25.

The author outlines a five unit course in manufacturing for the seventh grade and in table form compares 7th grade manufacturing with "traditional" 7th grade course.

Hawkins, Harry M., "Student Research in the High School Industrial Arts Program," IAVE, October, 1968, Vol. 57, No. 8, P. 41-44.

The author suggests a procedure for involving students in the use of the scientific method to solve practical problems including sample handouts provided for students to guide their work.

Haws, Robert W., "Putting 'Industry' Into Industrial Arts", IAVE, December, 1958, Vol. 47, No. 10, P. 303-304.

This article summarizes some of the outcomes of mass production experiences and suggests activities which could be carried out on the secondary level.

Haws, Robert W., and Schaefer, Carl V., "Manufacturing in the School Shop," American Technical Society, Chicago, 1960.

This book is intended as a unit of study within an industrial arts program. It makes many useful suggestions for the organization and carrying out of a mass production activity.

Hoots, William R., "Grade Three Studies Mass Production," IAVE, October, 1968, Vol. 57, No. 8, P. 48.

These 3rd graders organized a company, designed a product, and mass produced it.

Kruppa, Richard A., "Realism and The Assembly Line", JIAE, January-February, 1968, Vol. 27, No. 3, P. 22-23+.

A procedure for involving students in the activities of financing, personnel organization, initial research, production planning, purchasing, production, advertising, marketing, and accounting is described.

Lutz, Ronald J., "'Functions of Industry' in Action", School Shop, June, 1967, Vol. 26, No. 10, P. 30-31.

Mr. Lutz describes a mass production project that developed in a junior high school setting. The problems of graphic communication through actual production of the product were solved by the students.

Mikush, John J., "The Principles of Mass Production," School Shop, March, 1966, Vol. 25, No. 7, P. 48.

A simple metal machining project is outlined which will illustrate the principles of planning and production of manufactured items.

Murdauh, H. E., "Mass-Producing A Hunting Bow Kit", IAVE, January, 1969, Vol. 58, No. 1, P. 42-45.

This project involved the students in the establishment of a company, selection and design of product, setting up a production line, and in distributing the product.

Nelson, Hilding E., "The Production Project as a Unifying Experience," School Shop, 1967, Vol. 27, No. 3, P. 50-51.

Outlines an industrial organization which can be used in industrial arts classes to show the relationships among finance, management, production, sales and inspection. The students produced 3 different styles of pencil holders in five different finishes. Sketches of jigs and fixtures are included.

Sleep, Barry L., "From the Basement Up, A Framework for Learning," School Shop, 1968, September, Vol. 28, No. 1, P. 70-71.

Model construction is suggested as a means of simulating house construction work, encouraging students to plan and work together, and illustrate construction details in architectual drawing classes.

Smith, Harry T., "Update Woodshop Instruction via Scaled-Down House Construction", School Shop, 1969, December, Vol. 29, No. 4, P. 48-49.

A unit in residential construction is described which is taught as part of a woodworking course. Model building of representative sections of homes is undertaken in order to teach the desired concepts.

Spencer, Thomas Darrel, "Mass Production in Industrial Arts", IAVE, October, 1959, Vol. 48, No. 8, P. 229-230.

Mr. Spencer suggests that mass production is not only an important concept of industry which we should teach but that it is an excellent opportunity to teach democracy, teamwork, and responsibility. He suggests beginning with a study of mass production then dividing the class into three committees corresponding to engineering, production, and business.

Yanabu, Jack, "Try Mass Producing Greeting Cards," IAVE, September, 1968, Vol. 57, No. 7, P. 64-65.

This simulated industrial activity is reported to have increased students interest in graphic arts by instilling a competive spirit into class members.

B. Research and Experimentation

Berger, Ernest, "In-depth Studies of Industry", IAVE, October, 1968, Vol. 57, No. 8, P. 81-83.

As an example of what might be learned from an in-depth study of an industry the findings of such a study of the ceramics industry is related.

Fletcher, F. N., "Research and Development--Why Not?", JIAE, November-December, 1968, Vol. 28, No. 2, P. 22-24.

Outlines an 11th or 12th grade course in Research and Development and specifies basis upon which students might be selected who could benefit from experience in complex problem solving.

Kaczynski, Vincent W., and McCrory, David L., "Keeping Up", JIAE, May-June, 1967, Vol. 26, No. 5, P. 11-13.

Presents an outline of the need for research and development in industrial arts and describes a program for implimentation.

Maraviglia, Frank L., "Project Problems Refuted", JIAE, September-October, 1967, Vol. 27, No. 1, P. 8-9.

Reaction to "Project Problems" in the March-April Issue. Draws attention to the need to emphasize pride in workmanship and insists that programs which emphasizes Research and and Development can still make use of project which will help instill pride.

Melo, Lovie, "Strengthening Johnny's Know-How and Know-Why", School Shop, November, 1969, Vol. 29, No. 3, P. 39-42.

Emphasizes the use of industrial arts classrooms as laboratories for research and experimentation in applied science. Suggests problems from the areas of wood, metal, plastics, automotives, electronics, adhesives, and finishes.

C. Occupational Orientation

Adelman, Robertson, and Webb, "Relating Classroom to Industry in Large-Group Instruction," IAVE, Vol. 53, No. 1, January 1964.

A report on a classroom project to see how classroom instruction could most efficiently relate the industrial picture to students. In the experimental program arrangements were made for large group instruction. The instruction problem included teaching and demonstrating industrial methods and techniques as well as relating job levels and the skills necessary to become gainfully employed in them.

Brum, H. D., "Exposing Students to the World of Work," IAVE, October, 1969, Vol. 58, No. 8, P. 24+.

The program described has been developed by the Vocational Education Division of the Ohio State Department of Education. The intent is to provide youngsters with a more realistic understanding of the jobs and careers available. The approach is interdisciplinary in nature.

Coultas, Thomas A., and Waggoner, Thomas L., "Industrial Exposure," IAVE, December, 1968, Vol. 57, No. 10, P. 33-35.

The unit of instruction outlined involves the student in math, handtool manipulation and care, planning, organization, and new materials and processes. Drawings for the devices use to help students understand light frame construction are included.

DiMinico, Gerald, "You and Work, an Instructional System for Children in the Elementary School," American Vocational Journal, December, 1969, Vol. 44, No. 9, P. 22-23+.

Information about five major categories of job families was developed using 35mm slides and audio tape. A self-testing feedback system was included which requires the student to stop the projector and answer certain questions.

Dzurenda, Joseph V., "Summer School for Introduction to Vocations: A Voluntary Program Works," American Vocational Journal, December, 1969, Vol. 44, No. 9, P. 26-27.

This program, which has been initiated in 15 New Jersey schools, is six weeks in length and allows the students to rotate through home economics, industrial arts, science, health services, and business occupation experiences.

Maley, Donald, "How Industrial Arts Relates to Occupational Education," Industrial Arts and Vocational Education, February, 1970, Vol. 59, No. 2, P. 30-32-.

Dr. Maley takes the position that occupational education should be individual and society centered for the purpose of developing self-awareness and broad technological and industrial awareness. Ten elements of occupational education are presented followed by three broad areas of concentration for industrial arts programs.

Reynolds, James O., "Preparation for Entrance of the World of Work," School Shop, May, 1969, Vol. 28, No. 10, P. 33-35.

The article explains a course entitled Occupational Laboratory which has been established in Dayton, Ohio for 10th grade students who are normally classified as reluctant. All items produced are distributed to non-profit organizations at cost. Of the 55 students who have gone through this program and subsequently graduated only 1 is reported as unemployed.

Stevens, Dan, "A New Concept for Junior High Occupational Curriculum", IAVE, February, 1968, Vol. 57, No. 2, P. 32-33.

The programs involved occupational arts units taught on the seventh grade level in the areas of industrial arts, home economics, and business. Each seventh grader was required to enroll in at least one of these. At the ninth grade every student was involved in a seven-week unit called Occupational Information.

Streichler and Duffy, "How to Interpret Industry in the Industrial Arts Laboratory," IAVE, Vol. 52, No. 4, April, 1963.

A review of three basic techniques through which the instructor can achieve the important I-A objective of orienting students to the world of industry.

Thomas, Clifford C., "Vocational Guidance for Industrial Arts Students," IAVE, January, 1969, Vol. 58, No. 1, P. 37.

Mr. Thomas suggests three types of information which should be provided to industrial arts students about occupations and three methods of presenting this information.